

# FORENSIC EVALUATION OF THE CORRECT DIAGNOSIS AND TREATMENT OF TRAUMATIC BRAIN INJURY IN UKRAINE

*A. Pletenetska*

*Shupyk National Medical Academy of Postgraduate Education, Forensic Medicine*

Introduction. Because traumatic brain injury (TBI) is one of the leading places in the structure of total injuries, it's logical, that it's also one of the most important aspects of forensic investigations. Forensic examinations in cases of head injury, which were made in the forensic department of SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" for 2012-2014, were analyzed.

The aim of the research was to study the shortcomings during forensic examinations in cases of TBI, according to data of commission forensic examinations of the SI "The Main Bureau of Forensic Examination of Ministry of the Health Of Ukraine".

Materials and methods. Research materials were 741 forensic examination in cases of TBI, made in forensic department of the SI "The Main Bureau of Forensic Examination of Ministry of the Health Of Ukraine" for 2012-2014.

The data were subjected to statistical analysis by standard methods of descriptive statistics using BIOSTAT. Statistical analysis included the calculation of primary statistical parameters (mean and standard error (M)).

Results. In forensic medical department of SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" for 2012-2014 cases of traumatic brain injury met in all examinations in 39.1% (741 cases from 1895 total). Among the expert conclusions, which were changed by commissions of the Main Bureau, the biggest number was also TBI - 236 cases (31.85% of the total number of examinations with TBI (741)). The number of altered conclusions in relation to the total number of examinations in cases of TBI each year increased from  $27,9 \pm 2,18\%$  in 2012 to  $35,38 \pm 2,18\%$  in 2014.

Analyzing the examination, it was found that in medical records for forensics in many cases doctors established diagnosis "TBI" incorrectly, especially in cases of clinically-mild traumatic brain injury - concussion of a brain and bruises of a brain of mild degree, which amounted to 83,37% and 12,76%, respectively.

Most of the unfulfilled diagnostic and therapeutic measures concerned concussion of a brain. Thus, in the diagnosis of "concussion" not conducted CT or MRI of the brain, the diagnostic-therapeutic lumbar puncture wasn't done, craniography of a skull, reo encephalographic research vessels of the brain, electroencephalographic study. About the quality of patient examination It's striking that the neurological status of the majority of patients wasn't described in full, with complete neglect of neurological symptoms, peculiar to a particular form of TBI. Complicating forensic assessment also the fact that in some cases neurologists diagnosed "concussion" only on the basis of subjective patient complaints (headache, dizziness, nausea, etc.) and anamnesis (head injury, according to the patient's words). However, no patient was examined

neurosurgeons, ophthalmologists and otorhinolaryngologist, what's necessary in cases of head injury. In some cases the diagnosis of "concussion" was established by traumatologists, surgeons, etc., that non-core specialty physicians.

As for the more severe TBI as the bruise of a brain, the defects, that were found in the analysis of medical records in the forensic examination, were similar to what occurred with concussion. Thus, doctors at diagnosis "Traumatic brain injury" doesn't comply with clinical protocols of care. That's why during the examination of living persons, clinically mild forms of TBI commissioners of bureau attributed to injury of middle severity on the basis of duration of health disorder and even to hard injury, in case of repeated forensic medical examinations at the Main Bureau, these cases were almost a third of all admitted (31.78%).

Examinations of dead bodies in cases of TBI were a minority of cases (26.15%).

The reason of shortcomings committed during forensic examinations in cases of traumatic brain injury, has two main components: first, the shortcomings of expert work and, secondly, the shortcomings of clinicians at the stage of diagnosis and treatment of TBI. As for the disadvantages of an expert, they should be divided into the following groups. During the examination of living persons, on the one hand, this underestimation survey data of victims, ignoring comorbidity and peculiarities of TBI in children and elderly, as well as the background of intoxication, incomplete study of medical records; on the other hand, organizational shortcomings (the absence of consultations of victims by neurologists, neurosurgeons, etc.). During the examination of corpses the major shortcomings were related with not fully describing and disorders of the fence material for histological examination.

#### Conclusions.

1. In forensic medical department of SI "The Main Bureau of Forensic Examination of Ministry of the Health of Ukraine" for 2012-2014 cases of traumatic brain injury met in all examinations in 39.1% (741 cases from 1895 total). Among the expert conclusions, which were changed by commissions of the Main Bureau, the biggest number was also TBI - 236 cases (31.85% of the total number of examinations with TBI (741)). The number of altered conclusions in relation to the total number of examinations in cases of TBI each year increased from  $27,9 \pm 2,18\%$  in 2012 to  $35,38 \pm 2,18\%$  in 2014.

2. In provided for forensics medical records in many cases doctors established diagnosis "TBI" unsubstantiated. Most of the unfulfilled diagnostic and therapeutic measures concerned concussion of a brain and mild brain bruises. Thus, doctors at diagnosis "Traumatic brain injury" doesn't comply with clinical protocols of care.

3. During the examination of living persons, clinically mild forms of TBI commissioners of bureau attributed to injury of middle severity on the basis of duration of health disorder and even to hard injury, in case of repeated forensic medical examinations at the Main Bureau, these cases were almost a third of all admitted (31.78%).

4. Examinations of dead bodies in cases of TBI were a minority of cases (26.15%).

5. The reason of shortcomings committed during forensic examinations in cases of traumatic brain injury, has two main components: first, the shortcomings of expert work and, secondly, the shortcomings of clinicians at the stage of diagnosis and treatment of TBI. As for the disadvantages of an expert, they should be divided into the following groups. During the examination of living persons, on the one hand, this underestimation survey data of victims, ignoring comorbidity and peculiarities of TBI in children and elderly, as well as the background of intoxication, incomplete study of medical records; on the other hand, organizational shortcomings (the absence of consultations of victims by neurologists, neurosurgeons, etc.). During the examination of corpses the major shortcomings were related with not fully describing and disorders of the fence material for histological examination.

## **ОРГАНИЗАЦИОННЫЕ, МЕДИЦИНСКИЕ И ФАРМАЦЕВТИЧЕСКИЕ СОСТАВЛЯЮЩИЕ ИНТЕГРИРОВАННОЙ ПРОФИЛАКТИКИ СОЦИАЛЬНОЙ ПАТОЛОГИИ**

***В. С. Глушанко, М. В. Алфёрова, Е. В. Михневич***

*УО «Витебский государственный ордена Дружбы народов медицинский  
университет», Витебск, Беларусь*

Профилактическая направленность системы здравоохранения определена как ведущий фактор государственной политики в области охраны здоровья населения. Показатели состояния здоровья нации определяют потенциал социально-экономического, культурного и индустриального развития всего государства в целом.

С точки зрения устойчивого и стабильного роста благосостояния населения, здравоохранение представляет собой единую развитую, социально ориентированную систему, призванную обеспечить доступность, своевременность, качество и преемственность оказания медицинской помощи.

Материалы и методы исследования. Посредством статистического и аналитического методов исследования осуществлен ретроспективный анализ статистической отчетности Министерства здравоохранения Республики Беларусь. Используются данные официальных документов, утвержденные Министром здравоохранения и статистические сборники «Здравоохранение в Республике Беларусь» за 2005-2015 гг.

Используются логико-теоретические и эмпирические методы; материалы научных источников и собственные результаты исследования.

Основные направления исследования:

1. Осуществлен системный анализ интегрированной профилактики социальной патологии; выявлены медицинские, фармацевтические и